

CLAIMS

What is claimed is:

1. A method comprising:

creating, in a computer system consumer, a resource consumer;
5 assigning the resource consumer one of a set of flavors;
determining whether the resource consumer is limited to receiving resources from
a certain one of a set of resource providers, wherein each of the set of
resource providers has one of the set of flavors;
if the resource consumer is limited to receiving resources from the certain one of
10 the set of resource providers, marking a field to indicate that the resource
consumer is limited to receiving resources from the certain one of the set
of resource providers; and
allocating a resource to the resource consumer from one of the set of resource
providers whose flavor matches the flavor assigned to the resource
15 consumer.

2. The method of claim 1, wherein the field is stored in the resource consumer.

3. The method of claim 1, wherein in the resource is physical memory.

4. The method of claim 1, wherein the resource is one or more central processing
units.

20 5. The method of claim 1, wherein the set of flavors includes application, support,
and operating system.

6. A method comprising:

receiving a request for a resource from a resource consumer, wherein the resource
consumer has a first flavor;
25 determining whether the first flavor matches a second flavor of one of a set of
nodes;
if the first flavor matches the second flavor, determining whether the resource is
available in the one of the set of nodes; and

if the resource is available in the one of the set of nodes, allocating the resource to
the resource consumer.

7. The method of claim 6, wherein the resource consumer has a place field, wherein
the place field indicates that the resource consumer can only receive resources from a
certain one of the set of nodes, wherein each of the set of nodes has a node identifier, and
wherein the method further includes determining whether the place field of the resource
consumer matches the node identifier of the one of the set of nodes.
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8. The method of claim 6, wherein the resource is a CPU.
9. The method of claim 6, wherein the resource is physical memory.
10. The method of claim 6, wherein the resource consumer is a process or a thread.
11. A method comprising:
requesting a resource from a set of one or more resource providers, wherein each
one of the set of resource providers includes one of a set of flavors,
wherein the set of flavors includes an operating system flavor, a support
flavor, and an application flavor, and wherein each one of the set of
15 resource providers is a node; and
accepting the resource from one of the set of resource providers.
12. The method of claim 11, wherein the resource is one or more central processing
units.
- 20 13. The method of claim 11, wherein the node includes one or more central
processing units and physical memory.
14. An apparatus comprising:
a first set of one or more nodes, wherein each of the set of nodes includes,
a second set of one or more central processing units (CPUs); and
25 a physical memory communicatively coupled to each CPU of the second
set, wherein the physical memory includes a first flavor of the
node, wherein the physical memory includes an operating system,

and wherein the operating system is to allocate CPUs of the second set and the physical memory to resource consumers that have a second flavor that matches the first flavor.

- 5 15. The apparatus of claim 14, wherein the resource consumers are processes and threads.
16. The apparatus of claim 14, wherein the first flavor is an operating system flavor, a support flavor, or a application flavor.
- 10 17. A machine-readable medium that provides instructions, which when executed by a machine, cause the machine to perform operations comprising:
 - 15 creating, in a computer system consumer, a resource consumer;
 - assigning the resource consumer one of a set of flavors;
 - determining whether the resource consumer is limited to receiving resources from a certain one of a set of resource providers, wherein each of the set of resource providers has one of the set of flavors;
 - if the resource consumer is limited to receiving resources from the certain one of the set of resource providers, marking a field to indicate that the resource consumer is limited to receiving resources from the certain one of the set of resource providers; and
 - 20 allocating a resource to the resource consumer from one of the set of resource providers whose flavor matches the flavor assigned to the resource consumer.
18. The machine-readable medium of claim 17, wherein the field is stored in the resource consumer.
- 25 19. The machine-readable medium of claim 17, wherein in the resource is physical memory.
20. The machine-readable medium of claim 17, wherein the resource is one or more central processing units.

21. The machine-readable medium of claim 17, wherein the set of flavors includes application, support, and operating system.
22. A machine-readable medium that provides instructions, which when executed by a machine, cause the machine to perform operations comprising:
 - 5 receiving a request for a resource from a resource consumer, wherein the resource consumer has a first flavor;
 - determining whether the first flavor matches a second flavor of one of a set of nodes;
 - if the first flavor matches the second flavor, determining whether the resource is available in the one of the set of nodes; and
 - 10 if the resource is available in the one of the set of nodes, allocating the resource to the resource consumer.
23. The method of claim 22, wherein the resource consumer has a place field, wherein the place field indicates that the resource consumer can only receive resources from a certain one of the set of nodes, wherein each of the set of nodes has a node identifier, and wherein the method further includes determining whether the place field of the resource consumer matches the node identifier of the one of the set of nodes.
24. The machine-readable medium of claim 22, wherein the resource is a CPU.
25. The machine-readable medium of claim 22, wherein the resource is physical memory.
26. The machine-readable medium of claim 22, wherein the resource consumer is a process or a thread.
27. A machine-readable medium that provides instructions, which when executed by a machine, cause the machine to perform operations comprising:
 - 25 requesting a resource from a set of one or more resource providers, wherein each one of the set of resource providers includes one of a set of flavors, wherein the set of flavors includes an operating system flavor, a support

flavor, and an application flavor, and wherein each one of the set of resource providers is a node; and accepting the resource from one of the set of resource providers.

28. The machine-readable medium of claim 27, wherein the resource is one or more
5 central processing units.

29. The machine-readable medium of claim 27, wherein the node includes one or more central processing units and physical memory.